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इस भाग में भिन्न पृष्ठ संख्या दी जाती है जिससे कि यह प्रलग संकलन के रूप में रखा जा सके।

Separate paging is given to this Part in order that it may be filed as a separate compilation.

MINISTRY OF COMMERCE

NOTIFICATION

New Delhi, the 11th February 1969

S.O. 616.—Whereas in exercise of the powers conferred by section 6 of the Export (Quality Control and Inspection) Act, 1963 (22 of 1963), the Central Government is of opinion that it is necessary or expedient for the development of the export trade of India that steel tubes and tubulars shall be subject to quality control and inspection prior to export:

And whereas the Central Government has formulated the proposals specified below for the said purpose and has forwarded the same to the Export Inspection Council, as required by sub-rule (2) of rule 11 of the Export (Quality Control and Inspection) Rules, 1964:

Now, therefore, in pursuance of the said sub-rule, the Central Government hereby publishes the said proposals for the information of the public likely to be affected thereby.

2. Notice is hereby given that any person desiring to forward any objections or suggestions with respect to the said proposals may forward the same within thirty days of the date of publication of this notification to the Export Inspection Council, 'World Trade Centre', 14/1-B, Ezra Street (7th floor), Calcutta-1.

Proposals

(1) To notify that steel tubes and tubulars shall be subject to quality control and inspection prior to export;

(2) To specify the type of quality control and inspection in accordance with the draft Export of Steel Tubes and Tubulars (Quality Control and Inspection) Rules, 1969, set out in Annexure I to this notification as the type of quality control and inspection which would be applied to such steel tubes and tubulars;

(3) To recognise the specifications as declared by the exporter to be the agreed specifications of the export contract, subject to the minimum specifications set out in Annexure II to this notification, as the standard specifications for steel tubes and tubulars.

(4) To prohibit the export, in the course of international trade, of such steel tubes and tubulars unless the same are accompanied by a certificate issued by any of the Export Inspection Agencies established under section 7 of the Export (Quality Control and Inspection) Act, 1963 (22 of 1963), to the effect that the consignment of steel tubes and tubulars satisfies the conditions relating to quality control and inspection and is export-worthy.

2. Nothing in this notification shall apply to the export by land, sea or air of samples of steel tubes and tubulars to prospective buyers, provided the F.O.B. value of the consignment does not exceed rupees one hundred.

3. **Definition.**—In this notification “steel tubes and tubulars” means steel tubes and tubulars with plain-end as well as screwed and socketed-end, either black or galvanised, welded or seamless, suitable for conveying fluids and for other purposes such as manufacture of steel furniture, bicycles and electrical conduits.

#### ANNEXURE I

*Draft rules proposed to be made under section 17 of the Export (Quality Control and Inspection) Act, 1963 (22 of 1963)*

1. **Short title and commencement.**—(1) These rules may be called the Export of Steel Tubes and Tubulars (Quality Control and Inspection) Rules, 1969.

(2) They shall come into force on.....

2. **Definition.**—In these rules, unless the context otherwise requires,—

- (a) ‘Act’ means the Export (Quality Control and Inspection) Act, 1963 (22 of 1963);
- (b) ‘agency’ means any one of the Export Inspection Agencies established at Cochin, Madras, Calcutta, Bombay and Delhi under Section 7 of the Act.
- (c) ‘steel tubes and tubulars’ means steel tubes and tubulars with plain-end as well as screwed and socketed-end, either black or galvanised, welded or seamless suitable for conveying fluids and for other purposes such as manufacture of steel furniture, bicycles and electrical conduits.

3. **Quality control.**—(1) The quality of steel tubes and tubulars shall be ensured by effecting the following controls at different stages of manufacture, preservation and packing of the product, together with the levels of control specified in the table annexed hereto.

#### (A) Manufacturing stage control:

(1) **Bought out materials and components control.**—(a) Purchase specifications shall be laid down by the manufacturer incorporating the properties of materials/components to be used and the detailed dimensions thereof with tolerances.

(b) The accepted consignments shall be either, accompanied by a supplier's test/inspection certificate corroborating the requirements of the purchase specification, in which case occasional checks shall be conducted by the purchaser for a particular supplier to verify the correctness of the aforesaid test/inspection certificates, or the purchased materials/components shall be regularly inspected/tested either in a laboratory within the factory or in an outside laboratory.

(c) The sampling for inspection/testing to be carried out, shall be based on recorded investigation.

(d) After the inspection/test is carried out, systematic methods shall be adopted in segregating the accepted and rejected materials/components separately, and in disposal of rejected materials/components.

(e) Adequate records in respect of the above mentioned controls shall be maintained.

(ii) **Process control.**—(a) Detailed process specifications shall be laid down by the manufacturer for different processes of manufacture.

(b) Equipment/instrumentation facilities shall be adequate to control the processes as laid down in the process specifications.

(c) Adequate records shall be maintained to verify the controls exercised during the process.

(iii) **Product control.**—(a) The manufacturer shall either have his own testing facilities or shall have access to such testing facilities existing elsewhere to test the product as per the specification recognised under section 6 of the Act.

(B) **Preservation control:**

(a) A detailed specification shall be laid down by the manufacturer to safeguard the product from adverse effects of weather conditions.

(b) The product shall be well preserved both during storage and during transit.

(C) **Packing control:**

Tubes and tubulars shall be protected by varnishing externally or giving some other suitable treatment throughout their outer surface. Bundles of the tubes for transport shall be so prepared that no bundle weighs more than 100 kg. Where sub-bundles are to be prepared, the master bundle consisting of sub-bundles shall not weigh more than 100 kg. The tubes shall be secured tight together with rope, hoop iron or soft iron wire or any other suitable material.

The threads of all tubes shall be effectively covered with grease or any other suitable compound. The unsocketed screwed ends of tubes shall be suitably protected against damage preferably by using ring covers.

(2) **Inspection.**—The inspection of steel tubes and tubulars intended for export shall be carried out with a view to see that the consignment of steel tubes and tubulars offered for inspection conforms to the specification recognised under section 6 of the Act.

4. **Procedure of inspection.**—(1) The exporter intending to export a consignment of steel tubes and tubulars shall give intimation in writing to the agency and submit along with such intimation a declaration that the consignment of steel tubes and tubulars intended for export has been manufactured by exercising quality control laid down in rule 3, and that the consignment conforms to the requirements of the specification recognised for this purpose.

(2) The exporter shall also furnish to the agency the identification marks applied on the consignment.

(3) Every intimation and declaration under sub-rule (1) shall reach the office of the agency not less than ten days prior to the despatch of the consignment from the manufacturer's premises.

(4) On receipt of the intimation and declaration under sub-rule (1), the agency on satisfying itself that during the process of manufacture adequate quality control as provided in rule 3 has been exercised and the instructions, if any, issued by the Export Inspection Council in this regard have been observed and after further such inspection/testing considered necessary to ensure conformity of the consignment to the specification recognised shall, within three days, issue a certificate that the consignment satisfies the conditions relating to quality control and inspection and is export-worthy.

5. **Place of inspection.**—Inspection under these rules shall be carried out at the premises of the manufacturer only.

6. **Inspection fee.**—Subject to a minimum of fifty rupees for each consignment, a fee of twenty paise for every hundred rupee of F.O.B. value of each such consignment shall be paid by the exporter to the agency as inspection fee under rule 4.

7. **Appeal.**—(1) Any person aggrieved by the refusal of the agency to issue a certificate under sub-rule (4) of rule 4, may, within ten days of the receipt of the communication of such refusal by him, prefer an appeal to a panel of experts, consisting of not less than three persons, that may be constituted by the Central Government.

(2) The decision of the said panel of experts on such appeal shall be final.

TABLE

(See rule 3)

Sl. No.	Requirements	Reference	No. of samples to be tested	Lot size	Remarks
1	<i>Material (strip)</i>				
	(a) Chemical analysis for Sulphur and Phosphorus	Standard specification recognised for the purpose	One	One consignment of one type and size	—
	(b) Width and thickness	—do—	Each	and every coil	
2	Workmanship	—do—		—do—	
3	Dimensions	—do—		—do—	
4	Weight	—do—		—do—	
5	<i>Hydraulic test</i>				
	(a) Welded Tubes	—do—	Each	and every tube	
	(b) Seamless tubes	—do—	10%	One shift's production of one type and size	In case of any sample failing, 100% inspection shall be done.
6	<i>Galvanising</i>				
	(a) Visual defects	—do—	Each	and every tube	
	(b) Rodding test	—do—		—do—	
	(c) Test for uniformity of coating	—do—	one	One galvanising batch	
	(d) Test for adhesion	—do—	—do—	—do—	
7	<i>Physical tests</i>				
	(a) Tensile test	—do—	one	One shift's production of one type and size.	In case of failure, two more samples shall be tested. If any one addl. sample fails, the lot should be rejected.
	(b) Bend Test	—do—	—do—	—do—	—do—
	(c) <i>Flattening tests</i>				
	(i) Seamless	—do—	—do—	—do—	—do—
	(ii) Welded	—do—	One	Half an hour's production	—do—
	(d) Expansion test on Sockets	—do—	—do—	One shift's production of one type and size.	—do—

ANNEXURE II

(Specification for Mild Steel Tubes and Tubulars)

1. Material

1.1. The mild steel strips used for the manufacture of tubes and tubulars shall be such that the percentage of phosphorus and sulphur contents do not exceed 0.06 for each. This percentage shall not exceed 0.05 each in case of strips used for tubes and tubulars meant for conveying steam.

2. Tolerances.

2.1. The following tolerances shall apply on dimensions and weight.

(a) Dimensions

(i) Thickness of butt welded tubes . . . . .	+not limited -10%
(ii) Thickness of seamless tubes . . . . .	+not limited -12.7%
(ii) Outside diameter of socket . . . . .	+2.5% -2.5%
(iv) Minimum length of socket . . . . .	2 L + 2 P

where

L = Length of useful threading on the tube i.e. length of threading in which all the threads are fully formed at the root and derived from total length of threads by subtracting the length of wash-out threads

P = Pitch of thread

(v) Angular tolerances of bends and springs . . . . .	+1.5% -1.5%
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(b) Weight

(i) For quantities of 150 metres and over of one size . . . . .	+4%
(ii) Single tube . . . . .	+10% -8%

3. Workmanship

3.1. The tubes shall be cleanly finished and reasonably free from scale. They shall be reasonably straight, free from cracks, surface flaws, laminations and other defects. The screw threads of screwed tubes and sockets shall be clean and well cut. The ends shall be cut cleanly and square with the axis of the tube.

4. Joints

4.1. All screwed tubes, tubulars and sockets shall have pipe threads in accordance with IS : 554—1964 (Dimensions for pipe threads for gas list tubes and pressure tight screwed fittings) unless otherwise specified.

4.2. The screwed length of tubes, tubulars and sockets shall be free from burrs, dust and iron filings in order to give a smooth fit.

4.3. Each tube shall be supplied with one socket. The ends of the socket shall be chamfered internally to prevent damage to the leading thread.

### 5. Galvanising

5.1. Screwed tubes and tubulars required to be galvanised shall be galvanised before screwing.

5.2. In case of galvanised tubes of nominal bore from 8 mm upto and including 25 mm a rod of 230 mm long and of appropriate diameter as laid down below, shall be passed through the tubes to ensure a free bore.

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Nominal bore of tube mm	Diameter of rod mm
8	4
10	7
15	9
20	14
25	20

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5.3. The galvanising shall be such that the zinc shall be adherent, smooth, reasonably bright, continuous and free from such imperfections as flux, ash and dross inclusions, bore and black spots, pimples, lumpiness and runs, rust stains, bulky white deposits and blisters.

5.4. The uniformity of zinc coating shall be ascertained by subjecting the samples of tubes or tubulars to the following test.

5.4.1. Test sample of tubes or tubulars when subjected to four successive dips, each lasting one minute at  $18^{\circ} \pm 2^{\circ}\text{C}$  in the solution of copper sulphate ( $\text{Cu SO}_4, \text{SH}_2\text{O}$ ) having specific gravity 1.186 at  $18^{\circ}$  and PH value about 3.3 shall not show any red deposit of copper upon the base metal.

5.5. Adequacy of zinc adhesion to the surface of tubes and tubulars shall be checked by subjecting them to the following test.

5.5.1. The coating of test surface when cut or pried into such as with a stout knife applied with considerable pressure in a manner tending to remove small particles of the coating, shall not peel off so as to expose the underlying steel. If any peeling is observed, the adhesion of zinc shall not be considered adequate.

### 6. Hydraulic test

6.1. All tubes shall be capable of withstanding a test pressure of 50 kgf/cm<sup>2</sup> without showing defects of any kind. The pressure shall be maintained for a minimum period of 5 seconds.

6.2. Tubes requiring galvanising shall be tested for hydraulic pressure before galvanising.

### 7. Physical tests

7.1. **Tensile test.**—A test specimen cut from the middle length of the tube when tested on a universal tensile testing machine shall be found having tensile strength in the range of 35 to 47 kgf/cm<sup>2</sup> and the percentage elongation on a gauge length of (where  $S_0$  is the cross sectional area in mm<sup>2</sup> of the test specimen) shall not be less than 950 divided by the tensile strength.

7.2. **Bend test on tubes upto and including 50 mm Nominal Bore.**—The tubes shall be capable of withstanding the bend test without showing any sign of fracture or failure. Welded tubes shall be bent with the weld at  $90^{\circ}$  to the plane of welding. The tubes shall not be filled for this test.

7.2.1 Ungalvanised tubes shall be capable of being bent cold, without cracking, through  $180^{\circ}$  round a former having a radius at the bottom of groove, in the plane of bending equal to six times the approximate outside diameter of the tube and at red heat through  $180^{\circ}$  round a former having a radius equal to three times the outside diameter of the tube.

7.2.2 Galvanised tubes shall be capable of being bent cold, without cracking through 90° round a former having a radius at the bottom of the groove equal to eight times the outside diameter of the tube.

**7.3. Flattening test on tubes above 50 mm nominal bore—**

7.3.1 Test rings cut perpendicular to the axis of the selected tube having length 1.5 times the nominal bore but not less than 40 mm and not more than 100 mm in any case, shall withstand, without showing either crack or flaw, being flattened between two parallel plates until, when the pressure is released, the interior surfaces of the test piece, at the middle, remain apart not greater than 5 times the thickness of the wall of the tube. For this test, welded tubes shall have the weld placed at 45° to the position of maximum bend. The width of the plates shall be more than that of the flattened ring.

7.3.2 As a test of the weld itself, the weld shall be placed at the position of maximum bend and no opening of the weld shall take place until the distance between the plates is less than half the original diameter of the tube.

7.3.3 Before the test is conducted, the test rings shall have the inner and outer edges rounded.

**7.4. Expansion test on sockets—**

Sockets shall be capable of withstanding the expansion test without showing any sign of fracture or failure. This test shall be done in accordance with Appendix—B of IS: 1239—1964 Mild Steel Tubes and Tubulars.

[No. 60(69)Exp.Insp/68.]

A. C. BANERJEE, Jt. Secy.

